

§ 157.130

- (ii) Stroke counter.
- (iii) Revolution counter.

(f) If the stripping system has an eductor, the stripping system must have:

- (1) A pressure gauge at each driving fluid intake and at each discharge; and
- (2) A pressure/vacuum gauge at each suction intake.

(g) The equipment required under paragraphs (e) and (f) of this section must have indicating devices in the cargo control room or another location that is accepted by the Commandant.

[CGD 77-058b, 45 FR 43709, June 30, 1980, as amended by CGD 82-28, 50 FR 11627, Mar. 22, 1985]

§ 157.130 Crude oil washing with more than one grade of crude oil.

If a tank vessel having a COW system under §§ 157.10(e), 157.10a(a)(2), or 157.10c(b)(2) carries more than one grade of crude oil, the COW system must be capable of washing the cargo tanks with the grades of crude oil that the vessel carries.

[CGD 82-28, 50 FR 11627, Mar. 22, 1985]

§ 157.132 Cargo tanks: Hydrocarbon vapor emissions.

Each tank vessel having a COW system under § 157.10a(a)(2) or § 157.10c(b)(2) without sufficient segregated ballast tanks or dedicated clean ballast tanks to allow the vessel to depart from any port in the United States without ballasting cargo tanks must have—

- (a) A means to discharge hydrocarbon vapors from each cargo tank that is ballasted to a cargo tank that is discharging crude oil; or
- (b) Any other means accepted by the Commandant that prevents hydrocarbon vapor emissions when the cargo tanks are ballasted in port.

[CGD 77-058b, 45 FR 43709, June 30, 1980, as amended by CGD 82-28, 50 FR 11628, Mar. 22, 1985]

§ 157.134 Cargo tank drainage.

Each cargo tank must be designed for longitudinal and transverse drainage of crude oil to allow the tank vessel to pass the inspections under § 157.140.

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§ 157.136 Two-way voice communications.

Each tank vessel having a COW system under § 157.10(e), § 157.10a(a)(2), or § 157.10c(b)(2) must have a means that enables two-way voice communications between the main deck watch required under § 157.168 and each cargo discharge control station.

[CGD 82-28, 50 FR 11628, Mar. 22, 1985]

§ 157.138 Crude Oil Washing Operations and Equipment Manual.

(a) Each *Crude Oil Washing Operations and Equipment Manual* must include the following information:

- (1) The text of the Annex of Resolution 15 of the MARPOL Protocol.
- (2) A line drawing of the tank vessel's COW system showing the locations of pumps, piping, and COW machines.
- (3) A description of the COW system.
- (4) The procedure for the inspection of the COW system during COW operations.
- (5) Design characteristic information of the COW system that includes the following:
 - (i) Pressure and flow of the crude oil pumped to the COW machines.
 - (ii) Revolutions, number of cycles, and length of cycles of each COW machine.
 - (iii) Pressure and flow of the stripping suction device.
 - (iv) Number and location of COW machines operating simultaneously in each cargo tank.
- (6) The design oxygen content of the gas or mixture of gases that is supplied by the inert gas system to each cargo tank.
- (7) The results of the inspections recorded when passing the inspections under § 157.140.

(8) Characteristics of the COW system recorded during the COW operations when passing the inspections under § 157.140 that includes the following:

- (i) Pressure and flow of the crude oil pumped to the COW machines.
- (ii) Revolutions, number of cycles, and length of cycles of each COW machine.
- (iii) Pressure and flow of the stripping device.